SB761
U7RL
75-28

Forest Pest Management

BIOLOGICAL
EVALUATION R2-75-28

DWARF MISTLETOE
CLINT CREEK TSI PROJECT
SHOSHONE NATIONAL FOREST
WIND RIVER RANGER DISTRICT

December 1975

Rocky Mountain Region

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DWARF MISTLETOE
CLINT CREEK TSI PROJECT
SHOSHONE NATIONAL FOREST
WIND RIVER RANGER DISTRICT

December 1975

PREPARED BY: Donald H. Brown
Pathologist

APPROVED BY:

G L Downing

GEORGE L. DOWNING
Staff Director
Forest Pest Management

S H Hanks

S. H. HANKS
Deputy Regional Forester
State and Private Forestry

A 20 acre stand in Clint Creek was surveyed in August 1973 for the incidence and intensity of dwarf mistletoe (see attached map). The stand, averaging 27 years of age, is relatively uniform with a few scattered overstory trees. The stand is a candidate for a pre-commercial thinning project. The stand was surveyed by Forest Pest Management personnel using the variable size plot, third nearest tree technique at 4-chain sampling intervals evenly spaced through the stand.[1/] The data collected will assist the land manager in determining the feasibility of a pre-commercial thinning.

The field data was used to obtain yield projections by utilizing the computerized LPMIST program (Meyer et al., 1972).[2/] Various management alternatives can be obtained from this program depending on the inputs and options selected. A few of these alternatives are shown in tables 1-13. Table 1 shows projected yield if the stand is left untreated with no stand entry. Tables 2-9 and 10-13 show projected yields for 30 and 40 year cutting cycles, respectively. The principal difference between options included under each cutting cycle is the growing stock level to which the stand is thinned to initially. Each alternative has one pre-commercial and one or more commercial thinnings. The land manager can select the best alternative that is economically feasible and meets the management objectives. However, in order to obtain the projected yields the actual thinning must be done as shown in the projection.

The stand is recommended as a pathologically sound thinning project.

1/ A survey procedure for evaluating dwarf mistletoe in proposed thinning projects. USDA Forest Service, Region 2, mimeograph report, May 1975.

2/ Clifford A. Myers, Frank G. Hawksworth, and James L. Stewart. Stimulating yields of managed, dwarf mistletoe-infested lodgepole pine stands. USDA Forest Service, Res. Pap. RM-72, 15p., 1971.

EVALUATION OF LODGEPOLE PINE DWARF MISTLETOE IN TIMBER MANAGEMENT UNITS

BIOLOGICAL DATA

General Description

Forest Shoshone

District Wind River

Area Clint Creek

Acres 20 Site Index 60

Type and extent of:

Infected boundary None

Natural barriers Clearcuts & roads

Estimated cost/acre $70 FY —

Stand structure description evenaged, some scattered overstory

Management plans: reference and date of last plan Shoshone TM Plan (DES) 8/75

Types of products Post, Poles, & Sawtimber

No. of intermediate cuts One pre-commercial and commercial

Year of final cut 2055

Date of last stand examination or survey August 1973

Proposed Suppression Method

I. Overstory Removal

Acres _____ Infected residuals/acre and distribution _____

Age of oldest regeneration _____ Date of oldest sale _____

II. Sanitation Thinning

Acres 20 Est. trees/acre before 858 after 400 thinning

Stand age 27 Percent trees infected 59 Type of thinning: Precommercial x Commercial _____

Impact survey: Date 8/73

Results (see attached data & project map)

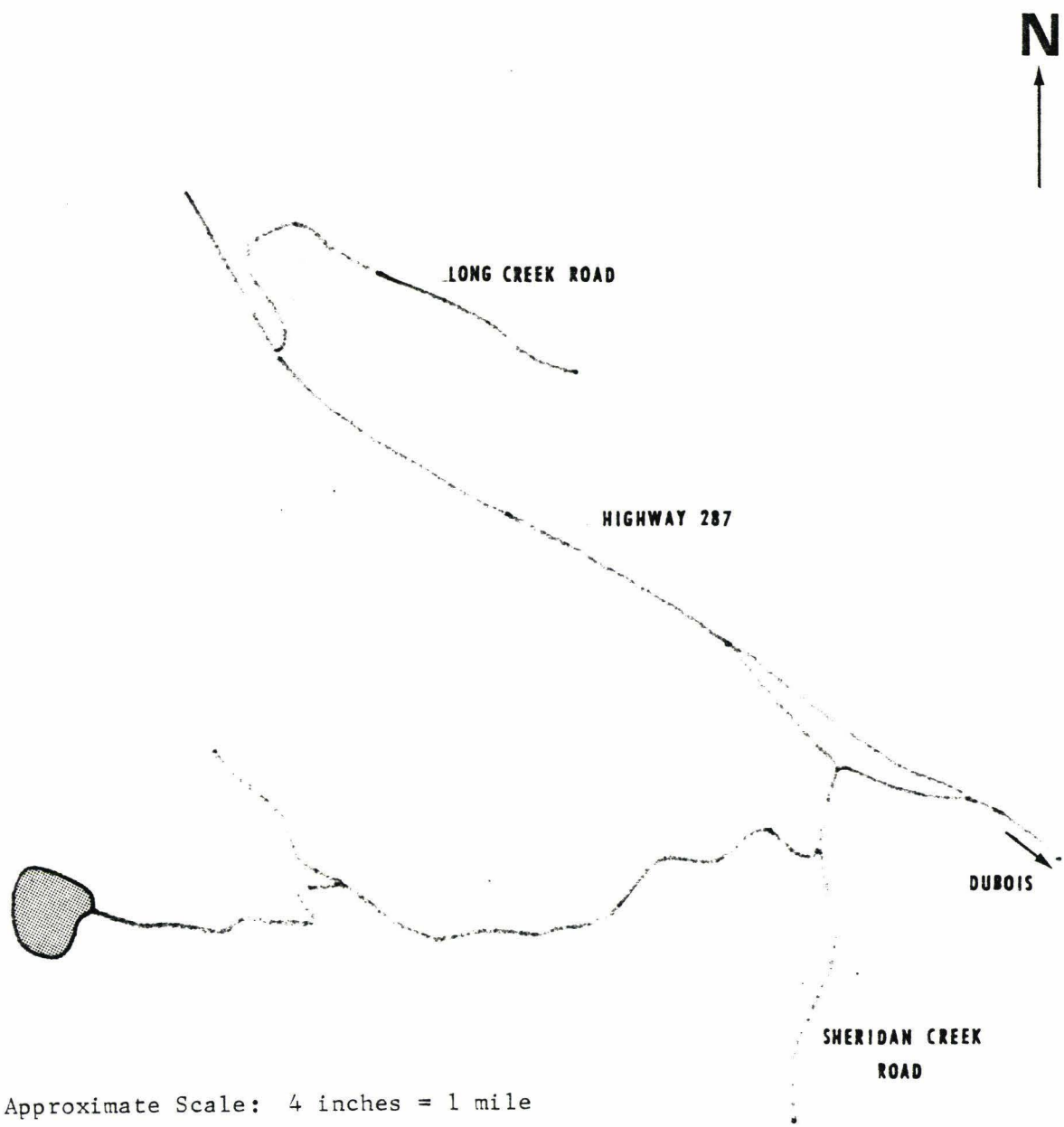
Related information and remarks _____

Percent trees with terminal damage NA Other damaging diseases or organisms even though the stand is located in an area of relatively high levels of comandra blister rust, no rust infected trees were detected during the survey.

Date 8/73

Examiner Jim Walters and Don Brown

CLINT CREEK TSI PROJECT



Approximate Scale: 4 inches = 1 mile

APPENDIX 1

Pre-treatment LPMIST Yield Projections

No treatment or thinning	Table 1
30 Year cutting cycle	Tables 2-9
40 Year cutting cycle	Tables 10-13

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 Unthinned
THINNING INTENSITY-- INITIAL- 1. SUBSEQUENT- 100.

CLINT CREEK WIND RIVER R.D. 11/11/75

STAND AGE (YEARS)	DMR	CHARACTERISTICS BEFORE AND AFTER THINNING: TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	PERIODIC INTERMEDIATE CUTS: TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
37	1.8	833	59	3.6	28	790	0	0					
47	2.5	820	91	4.5	31	1370	0	0					
57	3.2	797	118	5.2	35	2030	490	0					
67	3.9	753	143	5.9	38	2670	1240	0					
77	4.6	692	164	6.6	39	3200	2200	0					
87	4.9	617	174	7.2	40	3420	2710	0					
97	5.3	542	180	7.8	39	3490	2970	0					
107	5.6	469	176	8.3	38	3320	2950	12200					
117	6.0	400	169	8.8	36	3060	2780	11500					
						TOTAL YIELDS			3060		2780		11500

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED = 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.

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YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 60. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

		CHARACTERISTICS BEFORE AND AFTER THINNING							PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.3	404	12	2.3	22	130	0	0	454	9	70	0	0
37	.5	392	36	4.1	29	510	0	0					
47	.8	385	59	5.3	32	950	260	0					
57	1.0	383	83	6.3	39	1610	950	0					
57	1.0	383	83	6.3	39	1610	950	0	0	0	0	0	0
67	1.7	382	105	7.1	44	2330	1820	0					
77	2.4	382	127	7.8	49	3110	2650	0					
87	3.1	372	143	8.4	53	3780	3380	13900					
87	2.3	156	67	8.9	54	1830	1670	6800	216	76	1950	1710	7100
97	3.0	152	81	9.9	57	2340	2190	9200					
107	3.7	145	92	10.8	60	2780	2610	11200					
117	4.4	134	100	11.7	62	3070	2900	12800					
117	4.0	89	70	12.0	62	2150	2040	9100	45	30	920	860	3700
127	4.7	81	75	13.0	64	2330	2220	10100					
							TOTAL YIELDS				2940	2570	10800

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 8.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27.. 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 70. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

CHARACTERISTICS BEFORE AND AFTER THINNING									PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.4	472	14	2.3	22	140	0	0	386	7	60	0	0
37	.6	458	40	4.0	29	560	0	0					
47	.9	451	67	5.2	32	1060	250	0					
57	1.2	448	91	6.1	39	1750	920	0					
57	1.2	448	91	6.1	39	1750	920	0	0	0	0	0	0
67	1.9	447	116	6.9	44	2560	1930	0					
77	2.6	444	136	7.5	49	3310	2740	0					
87	3.3	429	154	8.1	52	4020	3520	14600					
87	2.4	164	66	8.6	54	1790	1620	6600	265	88	2230	1900	8000
97	3.1	160	80	9.6	57	2310	2140	8900					
107	3.8	152	91	10.5	59	2740	2570	10900					
117	4.5	140	98	11.3	62	3000	2830	12300					
117	4.1	95	70	11.6	62	2150	2030	8900	45	28	850	800	3400
127	4.8	86	74	12.6	64	2330	2210	10000					
							TOTAL YIELDS				3140	2700	11400

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
NONCOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE. STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 80. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

		CHARACTERISTICS BEFORE AND AFTER THINNING							PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.5	545	14	2.2	22	150	0	0	313	7	50	0	0
37	.7	529	44	3.9	28	610	0	0					
47	1.0	521	71	5.0	32	1120	0	0					
57	1.7	517	98	5.9	38	1680	870	0					
57	1.7	517	98	5.9	38	1680	870	0	0	0	0	0	0
67	2.4	515	122	6.6	44	2680	1840	0					
77	3.1	501	142	7.2	48	3420	2710	0					
87	3.9	474	161	7.9	50	4130	3470	6200					
87	2.8	170	65	8.4	51	1590	1510	6200	304	96	2340	1960	0
97	3.5	163	79	9.4	54	2160	2000	8300					
107	4.2	152	88	10.3	57	2531	2370	10000					
117	4.9	138	93	11.1	59	2750	2600	11200					
117	4.7	99	70	11.4	59	2090	1970	8600	39	23	660	630	2600
127	5.0	88	73	12.3	61	2180	2070	9300					
							TOTAL YIELDS				3050	2590	2600

MERCH. CU. FT. - TREES 5.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
D/ARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NON-COMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27.. 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 90. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

STAND AGE (YEARS)	DMR	CHARACTERISTICS BEFORE AND AFTER THINNING: TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	PERIODIC INTERMEDIATE CUTS: TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.6	613	16	2.2	21	170	0	0	245	5	30	0	0
37	.8	595	47	3.8	28	650	0	0					
47	1.2	586	77	4.9	32	1200	0	0					
57	1.9	582	103	5.7	38	1960	730	0					
57	1.9	582	103	5.7	38	1960	730	0	0	0	0	0	0
67	2.6	578	129	6.4	44	2810	1750	0					
77	3.3	560	154	7.1	46	3540	2770	0					
87	4.0	528	175	7.8	47	4140	3530	5900					
87	2.9	170	65	8.4	49	1610	1440	5900	358	110	2530	2090	0
97	3.6	163	79	9.4	52	2060	1910	7900					
107	4.3	152	88	10.3	55	2420	2270	9600					
117	5.0	137	92	11.1	56	2620	2470	10700					
117	4.7	99	70	11.4	57	2010	1900	8300	38	22	610	570	2400
127	5.1	88	73	12.3	56	2100	1990	8900					
							TOTAL YIELDS				3170	2660	2400

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 60. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

STAND AGE (YEARS)	DMR	CHARACTERISTICS BEFORE AND AFTER THINNING: TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	PERIODIC INTERMEDIATE CUTS: TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	850	21	2.1	21	200	0	0					
27	.3	404	12	2.3	22	130	0	0	454	9	70	0	0
37	.5	392	36	4.1	29	510	0	0					
47	.8	386	59	5.3	32	950	260	0					
57	1.0	383	83	6.3	39	1610	950	0					
57	.4	229	54	6.6	40	1080	740	0	154	29	530	210	0
67	.7	226	71	7.6	45	1620	1350	0					
77	.9	224	88	8.5	50	2210	1980	8100					
87	1.3	222	105	9.3	54	2820	2610	10800					
87	.7	138	69	9.6	54	1900	1760	7300	84	36	920	850	3500
97	1.0	133	82	10.6	58	2370	2230	9500					
107	1.3	133	96	11.5	60	2890	2730	12000					
117	2.0	133	110	12.3	63	3390	3220	14400					
117	1.4	80	70	12.7	63	2190	2080	9400	53	40	1200	1140	5000
127	2.1	80	82	13.7	66	2600	2480	11500					
							TOTAL YIELDS				2720	1990	8500

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
ALL THINNINGS MAY BE NONCOMMERCIAL.
AT INITIAL AGE 27.. 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 80. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

		CHARACTERISTICS BEFORE AND AFTER THINNING							PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.5	545	14	2.2	22	150	0	0	313	7	50	0	0
37	.7	529	44	3.9	28	610	0	0					
47	1.0	521	71	5.0	32	1120	0	0					
57	1.7	517	98	5.9	38	1380	870	0					
57	.9	240	52	6.3	40	1030	610	0	277	46	850	260	0
67	1.3	237	71	7.4	45	1600	1310	0					
77	2.0	235	88	8.3	50	2200	1960	8000					
87	2.7	233	105	9.1	53	2830	2600	10700					
87	2.1	143	69	9.4	54	1880	1740	7200	90	36	950	860	3500
97	2.8	138	81	10.4	57	2350	2210	9300					
107	3.5	132	92	11.3	60	2760	2610	11300					
117	4.2	123	100	12.2	62	3060	2900	12900					
117	3.8	82	70	12.5	63	2150	2040	9200	41	30	910	860	3700
127	4.5	75	75	13.5	64	2330	2220	10200					
							TOTAL YIELDS				2760	1720	7200

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
ALL THINNINGS MAY BE NONCOMMERCIAL.
AT INITIAL AGE 27.. 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 90. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

CHARACTERISTICS BEFORE AND AFTER THINNING									PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.6	613	16	2.2	21	170	0	0	245	5	30	0	0
37	.8	595	47	3.8	28	650	0	0					
47	1.2	586	77	4.9	32	1200	0	0					
57	1.9	582	103	5.7	35	1960	780	0					
57	1.0	248	50	6.1	39	1000	530	0	334	53	960	250	0
67	1.7	245	69	7.2	45	1570	1240	0					
77	2.4	243	87	8.1	50	2160	1900	7800					
87	3.1	237	102	8.9	53	2740	2510	10300					
87	2.6	148	68	9.2	54	1860	1710	7000	89	34	880	800	3300
97	3.3	143	81	10.2	57	2330	2190	9200					
107	4.0	135	91	11.1	60	2720	2560	11100					
117	4.7	123	97	12.0	62	2940	2730	12400					
117	4.4	85	70	12.3	62	2150	2030	9100	38	27	790	760	3300
127	5.1	77	73	13.2	64	2270	2160	9900					
							TOTAL YIELDS				2660	1560	6600

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
ALL THINNINGS MAY BE NONCOMMERCIAL.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 30-year cutting cycle
THINNING INTENSITY-- INITIAL- 70. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

STAND AGE (YEARS)	DMR	CHARACTERISTICS BEFORE AND AFTER THINNING TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	PERIODIC INTERMEDIATE CUTS TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.4	472	14	2.3	22	140	0	0	386	7	60	0	0
37	.6	458	40	4.0	29	560	0	0					
47	.9	451	67	5.2	32	1060	250	0					
57	1.2	448	91	6.1	39	1750	920	0					
57	.5	236	53	6.4	40	1050	650	0	212	38	700	270	0
67	.8	233	71	7.5	45	1620	1340	0					
77	1.1	231	89	8.4	50	2220	1990	8100					
87	1.8	229	106	9.2	54	2850	2620	10800					
87	1.2	141	69	9.5	54	1900	1760	7300	88	37	950	860	3500
97	1.9	136	82	10.5	57	2370	2230	9500					
107	2.6	135	96	11.4	60	2890	2720	11900					
117	3.3	131	106	12.2	63	3280	3110	13900					
117	2.8	81	70	12.6	63	2180	2060	9300	50	36	1100	1050	4600
127	3.5	78	79	13.6	65	2490	2370	11000					
						TOTAL YIELDS					2810	1910	8100

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
ALL THINNINGS MAY BE NONCOMMERCIAL.
AT INITIAL AGE 27.. 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 40-year cutting cycle
THINNING INTENSITY-- INITIAL- 60. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

CHARACTERISTICS BEFORE AND AFTER THINNING

STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0
27	.3	404	12	2.3	22	130	0	0
37	.5	392	36	4.1	29	510	0	0
47	.8	386	59	5.3	32	950	250	0
57	1.0	383	83	6.3	39	1610	950	0
67	1.7	382	105	7.1	44	2340	1820	0
67	1.1	201	60	7.4	45	1370	1120	0
77	1.8	198	76	8.4	50	1910	1710	7000
87	2.5	195	92	9.3	54	2490	2300	9500
97	3.2	190	106	10.1	57	3030	2840	11900
107	3.9	180	117	10.9	59	3500	3300	14200
107	3.2	101	70	11.3	60	2120	2000	8700
117	3.9	95	78	12.3	62	2410	2290	10200
117	3.9	95	78	12.3	62	2410	2290	10200
127	4.6	87	84	13.3	64	2620	2490	11500

PERIODIC INTERMEDIATE CUTS

TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
454	9	70	0	0
181	45	960	700	0
79	47	1380	1300	5500
0	0	0	0	0

TOTAL YIELDS 2410 2000 5500

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE. STAND NUMBER 1.

SITE INDEX 60 40-year cutting cycle
THINNING INTENSITY-- INITIAL- 70. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

		CHARACTERISTICS BEFORE AND AFTER THINNING							PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.4	472	14	2.3	22	140	0	0	386	7	60	0	0
37	.6	458	40	4.0	29	560	0	0					
47	.9	451	67	5.2	32	1060	259	0					
57	1.2	448	91	6.1	39	1750	920	0					
67	1.9	447	116	6.9	44	2560	1930	0					
67	1.1	204	59	7.3	45	1350	1099	0	243	57	1210	840	0
77	1.8	201	76	8.3	50	1890	1680	6900					
87	2.5	198	91	9.2	54	2470	2270	9400					
97	3.2	192	105	10.0	57	2990	2810	11800					
107	3.9	181	115	10.8	59	3460	3240	13900					
107	3.3	102	70	11.2	60	2110	1990	8600	79	45	1330	1250	5300
117	4.0	96	78	12.2	62	2400	2270	10100					
117	4.0	96	78	12.2	62	2400	2270	10100	0	0	0	0	0
127	4.7	88	84	13.2	64	2610	2480	11400					
							TOTAL YIELDS				2600	2090	5300

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27.. 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 40-year cutting cycle
THINNING INTENSITY-- INITIAL- 80. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

CHARACTERISTICS BEFORE AND AFTER THINNING									PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.5	545	14	2.2	22	150	0	0	313	7	50	0	0
37	.7	529	44	3.9	28	610	0	0					
47	1.0	521	71	5.0	32	1120	0	0					
57	1.7	517	98	5.9	38	1880	870	0					
67	2.4	515	122	6.6	44	2680	1840	0					
67	1.6	214	57	7.0	45	1300	1000	0	301	65	1380	840	0
77	2.3	211	74	8.0	50	1840	1600	0					
87	3.0	207	89	8.9	53	2400	2200	9000					
97	3.7	197	101	9.7	56	2870	2670	11200					
107	4.4	182	109	10.5	59	3250	3050	12200					
107	3.9	110	70	10.8	60	2100	1980	8500	72	39	1150	1070	4400
117	4.5	101	77	11.8	62	2350	2220	9800					
117	4.6	101	77	11.8	62	2350	2220	9800	0	0	0	0	0
127	4.9	90	79	12.7	63	2450	2330	10500					
							TOTAL YIELDS				2580	1910	4400

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.

YIELDS PER ACRE OF LODGEPOLE PINE, STAND NUMBER 1.

SITE INDEX 60 40-year cutting cycle
THINNING INTENSITY-- INITIAL- 90. SUBSEQUENT- 70.

CLINT CREEK WIND RIVER R.D. 11/11/75

CHARACTERISTICS BEFORE AND AFTER THINNING									PERIODIC INTERMEDIATE CUTS				
STAND AGE (YEARS)	DMR	TREES NO.	BASAL AREA SQ.FT.	AVERAGE D.B.H. IN.	AVERAGE HEIGHT FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.	TREES NO.	BASAL AREA SQ.FT.	TOTAL VOLUME CU.FT.	MERCHANTABLE VOLUME CU.FT.	SAWTIMBER VOLUME BD.FT.
27	1.1	858	21	2.1	21	200	0	0					
27	.6	613	16	2.2	21	170	0	0	245	5	30	0	0
37	.8	595	47	3.8	28	650	0	0					
47	1.2	586	77	4.9	32	1200	0	0					
57	1.9	582	103	5.7	38	1960	780	0					
67	2.6	578	129	6.4	44	2810	1750	0					
67	1.6	221	56	6.8	45	1260	930	0	357	73	1550	820	0
77	2.3	218	72	7.8	50	1800	1540	0					
87	3.0	213	88	8.7	53	2360	2140	8700					
97	3.7	292	99	9.5	56	2820	2610	10900					
107	4.4	187	108	10.3	59	3280	3010	12700					
107	4.0	114	70	10.6	59	2090	1970	8400	73	38	1110	1040	4300
117	4.7	104	76	11.6	61	2340	2210	9700					
117	4.7	104	76	11.6	61	2340	2210	9700	0	0	0	0	0
127	5.0	92	77	12.4	63	2390	2270	10200					
							TOTAL YIELDS				2690	1860	4300

MERCH. CU. FT. - TREES 6.0 INCHES D.B.H. AND LARGER TO 4.0-INCH TOP.
BD. FT. - TREES 6.5 INCHES D.B.H. AND LARGER TO 6.0-INCH TOP.
INITIAL THINNING MUST BE FROM BELOW.
DWARF MISTLETOE RATING ABOVE WHICH PERIODIC THINNINGS WILL NOT BE EXECUTED - 5.0.
MINIMUM CUTS FOR INCLUSION IN TOTAL YIELDS-- 400. CUBIC FEET AND 1500. BOARD FEET.
PRECOMMERCIAL INITIAL THINNING ALLOWED. NONCOMMERCIAL SUBSEQUENT THINNINGS NOT ALLOWED.
AT INITIAL AGE 27., 59. PERCENT OF THE TREES WERE INFECTED WITH DWARF MISTLETOE.
NOTE THAT NOT ALL SCHEDULED THINNINGS WERE POSSIBLE.